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EXAMINER
KIM, JUNG W

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/715,643	RAZ ET AL.
Office Action Summary	Examiner	Art Unit
	Jung W Kim	2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1:      Claims 1-50 have been examined.

Response to Amendment

2.   The objections to claims 36 and 39 are withdrawn as the amendments to the

claims overcome the objections.

Response to Arguments

3.   Applicant's arguments with respect to amended claims 1-50 have been

considered but are moot in view of the new ground(s) of rejection.

Drawings

4.   As specified in the previous office action, the drawings are objected to as being

informal.   The original drawings are acceptable for examination purposes but applicant

will be required to submit formal drawings when a Notice of Allowance is submitted.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-16, 18-42, and 44-50 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Wells U.S. Patent No. 6,338,141 (hereinafter Wells) in view of Frisch

Essential System Administration (hereinafter Frisch) and Kim "The Design and

Implementation of Tripwire: A File System Integrity Checker" (hereinafter Kim).

7.   As per claim 1, Wells discloses a method of detecting computer viruses on a

single, stand-alone computer system or on a networked machine using an antivirus unit

(see Wells, abstract). Wells does not expressly disclose providing a disk space having

at least a portion that is partitioned into separate segments, each segment being

accessed by at least one of a plurality of hosts, wherein a first one of the segments is

accessed using a different file system than a second one of the segments. However,

this configuration is found in several operating systems. For example, Frisch teaches a

UNIX operating system that enables a flexible partitioning capability wherein each

partitioned segment is accessed using a different file system. See Frisch, pages 409-

414 'From Disks to Filesystems', especially page 409, first paragraph in the section. It

would be obvious to one of ordinary skill in the art at the time the invention was made

for the method of detecting a virus to be actuated on a disk space having at least a

portion that is partitioned into separate segments, each segment being accessed by at

least one of a plurality of hosts, wherein a first one of the segments is accessed using a

different file system than a second one of the segments. Motivation to combine enables

an administrator broader control to allow or restrict access to information on a disk by

segmenting the disk on a partition level as taught by Frisch. See Frisch, page 394, 2nd

and 3rd paragraphs.

8.   Further, Wells does not expressly disclose scanning for a virus on a portion of

the disk that includes a part of the first and second segments. However, means of

selectively checking the integrity of separate filesystems on a disk is a feature of the

UNIX tool Tripwire. Kim teaches how different filesystems on a disk can be checked by

entering the paths of relevant filesystems as well as corresponding selection-masks,

which classifies how to observe changes in the filesystem, in the Tripwire configuration

file (see Kim, page 11, Figure 2 and related text). Furthermore, Kim teaches Tripwire as

a function operating in a larger security methodology: the results of a Tripwire check can

be used by a filter program (see Kim, page 12, 2nd paragraph, 'quiet option'). It would

be obvious to one of ordinary skill in the art at the time the invention was made to

selectively scan separate filesystems on a disk space for viruses. Motivation to

combine enables the method to secure any suspicious subset of data on a disk, even

across partitioned boundaries.

9.   Finally, the invention of Wells scans all types of files and does not limit scanning

to only non-native files. Further, file sharing between different operation systems is a

common feature among networked systems. As taught by Frisch in a different chapter,

non-native files are transferred between a UNIX system and any reachable system

(non-local and/or non-UNIX) using commands "ftp" and "telnet". See Frisch, page 587,

4th and 5th bullets. Non-native files downloaded from non-local and/or non-UNIX

platforms are incorporated into the local filesystem and likewise are a portion of the disk

space to be scanned. It would be obvious to one of ordinary skill in the art at the time

the invention was made for the antivirus unit, using a particular operating system, to

access non-native files created using operating systems different from the particular

operating system that is used by the antivirus unit in connection with scanning at least

parts of the disk space for viruses since file sharing is a common technique between

different operating systems as known to one of ordinary skill in the art and as taught by

Frisch. Ibid. The aforementioned cover the limitations of claim 1.

10.   As per claim 2, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). In addition, the first and second segments correspond to

different physical portions of the disk space. See Frisch, page 410, Figure 9-3. The

aforementioned cover the limitations of claim 2.

11.   As per claim 3, Wells covers a method as outlined above in the claim 2 rejection

under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the UNIX OS

wherein the first and second segments overlap. See Frisch, pages 39-41, "Links". It

would be obvious to one of ordinary skill in the art at the time the invention was made

for the first and second segments to overlap to enable information pertinent to multiple

segments to be shared between the segments as taught by Frisch. Ibid. The

aforementioned cover the limitations of claim 3.

12.   As per claim 4, Wells covers a method as outlined above in the claim 2 rejection

under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the UNIX OS

wherein the first and second segments do not overlap. See Frisch, page 395, Figure 9-

1, disk 1. It would be obvious to one of ordinary skill in the art at the time the invention

was made for the first and second segments to not overlap to organize segments into

distinct logical partitions as taught by Frisch. Ibid. The aforementioned cover the

limitations of claim 4.

13.   As per claim 5, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the UNIX OS

wherein the first and second segments correspond to logical entities. See Frisch, page

395, Figure 9-1, disk 1. It would be obvious to one of ordinary skill in the art at the time

the invention was made for the first and second segment to correspond to logical

entities since it enables a direct correlation between a physical partition and a logical

partition as taught by Frisch. Ibid. The aforementioned cover the limitations of claim 5.

14.   As per claim 6, Wells covers a method as outlined above in the claim 5 rejection

under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the UNIX OS

wherein the first and second segments overlap. See Frisch, pages 39-41, "Links". It

would be obvious to one of ordinary skill in the art at the time the invention was made

for the first and second segments to overlap to enable information pertinent to multiple

segments to be shared between the segments as taught by Frisch. Ibid. The

aforementioned cover the limitations of claim 6.

15.   As per claim 7, Wells covers a method as outlined above in the claim 5 rejection

under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the UNIX OS

wherein the first and second segments do not overlap. See Frisch, page 395, Figure 9-

1, disk 1. It would be obvious to one of ordinary skill in the art at the time the invention

was made for the first and second segments to not overlap to organize segments into

distinct logical partitions as taught by Frisch. Ibid. The aforementioned cover the

limitations of claim 7.

16.   As per claim 8, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). In addition, the part of the disk space that is scanned by the

antivirus unit corresponds to particular types of files stored in the disk space. See

Wells, col. 9, lines 1-4. The aforementioned cover the limitations of claim 8.

17.   As per claim 9, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). In addition, Kim teaches identifying files that have been

modified since a previous scan and using a filter program to generate an automated

action in response to the identified files, and Wells teaches scanning selected files by

an antivirus unit as an independent function within a larger collective antivirus

methodology. See Kim, page 11, section 4.2, tw.config selection-mask combination:

+m; page 12, 2nd paragraph; see Wells, col. 1, lines 54-60. It would be obvious to one

of ordinary skill in the art at the time the invention was made to apply the teaching of

Kim to the method covered by Wells to ensure the integrity of a file has not been

breached since a previous scan. See Kim, page 1, last line-page 2, first line; page 10,

section 4.1.3. The aforementioned cover the limitations of claim 9.

18.   As per claim 10, Wells covers a method as outlined above in the claim 9 rejection

under 35 U.S.C. 103(a). In addition, Kim teaches examining a date of last modification

for each of the files; and determining which files have been modified since a previous

scan using the date of last modification for each of the files. See Kim, page 11, section

4.2, tw.config selection-mask combination: +m. It would be obvious to one of ordinary

skill in the art at the time the invention was made to apply the teaching of Kim to the

method covered by Wells to ensure the integrity of a file has not been breached since a

previous scan. See Kim, page 1, last line-page 2, first line; page 10, section 4.1.3. The

aforementioned cover the limitations of claim 10.

19.   As per claim 11, Wells covers a method as outlined above in the claim 10

rejection under 35 U.S.C. 103(a). In addition, Wells and Kim teach scanning the file for

viruses in response to a date of last modification indicating a file has been modified

since a previous virus scan. See Wells, col. 1, lines 54-60; see Kim, page 12, 2nd

paragraph. It would be obvious to one of ordinary skill in the art at the time the

invention was made to apply the teaching of Kim to the method covered by Wells to

ensure the integrity of a file has not been breached since a previous scan. See Kim,

page 1, last line-page 2, first line; page 10, section 4.1.3. The aforementioned cover the

limitations of claim 11.

20. As per claim 12, Wells covers a method as outlined above in the claim 11

rejection under 35 U.S.C. 103(a). In addition, Wells and Kim teach comparing a current

size of the file with a previous size of the file determined during the previous virus scan

in response to date information indicating that a file has not been modified since a

previous virus scan; and in response to the current size being different from the

previous size, rescanning the file. See Kim, page 11, section 4.2, tw.config selection-

mask combination: +ms; page 12, 2nd paragraph; see Wells, col. 1, lines 54-60. It would

be obvious to one of ordinary skill in the art at the time the invention was made to apply

the teaching of Kim to the method covered by Wells to ensure the integrity of a file has

not been breached since a previous scan. See Kim, page 1, last line-page 2, first line;

page 10, section 4.1.3. The aforementioned cover the limitations of claim 12.

21. As per claim 13, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). In addition, Kim teaches implementing at least part of Tripwire

using stand-alone hardware. See Kim, page 12, section 4.3.1. It would be obvious to

one of ordinary skill in the art at the time the invention was made to implement at least

part of the antivirus unit using stand-alone hardware to ensure the inviolability of the

integrity database used by Tripwire. See Kim, page 12, section 4.3.1, first paragraph in the section, 2nd sentence. The aforementioned cover the limitations of claim 13.

22.   As per claim 14, Wells covers a method as outlined above in the claim 1 rejection under 35 U.S.C. 103(a). In addition, Frisch and Kim teach implementing at least part of the antivirus unit as a process running on at least one of the hosts. See Frisch, page 43, 'Processes'; see Kim, page 10, section 4.1.2, 'Scalability' and section 4.1.3, 'Configurability and flexibility'; see Wells, col. 3, lines 10-11. It would be obvious to one of ordinary skill in the art at the time the invention was made for a part of the antivirus unit be a process running on at least one of the hosts since any application run on a machine comprises at least one process on the machine: as defined by Frisch, a process is a single program running in its own virtual address space. See Frisch, page 43, last paragraph, first sentence. The aforementioned cover the limitations of claim 14.

23.   As per claim 15, Wells covers a method as outlined above in the claim 1 rejection under 35 U.S.C. 103(a). In addition, Frisch teaches the useable areas of a disk space are partitioned into separate segments in any given partitioned disk. See Frisch, page 395, Figure 9-1, disk 1; page 410, Figure 9-3. It would be obvious to one of ordinary skill in the art at the time the invention was made for the useable areas of the disk space to be partitioned into separate segments to enable each disk partition to be usable to a user or application. The aforementioned cover the limitations of claim 15.

24.　　As per claim 16, Wells covers a method as outlined above in the claim 1 rejection under 35 U.S.C. 103(a). In addition, Wells and Kim teach the antivirus unit scans useable areas of the disk space. See Kim, page 11, Figure 2; see Wells, col. 1, lines 54-60. It would be obvious to one of ordinary skill in the art at the time the invention was made for the antivirus unit to scan useable areas of the disk space since these areas are workspaces having read/write privileges for users and applications and are prone to integrity attacks when a virus attains these privileges. The aforementioned cover the limitations of claim 16.

25.　　As per claim 18, Wells covers a method as outlined above in the claim 1 rejection under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the UNIX OS wherein a particular segment assigned to a first host is inaccessible to other hosts. See Frisch, page 29, Table 2-3, 'no access'; page 30, 5th line 'Other Access' and Figure 2-1; pages 228-229 'Using Groups Effectively', especially page 228, 4th paragraph, second sentence. It would be obvious to one of ordinary skill in the art at the time the invention was made for a particular segment assigned to a first host to be inaccessible to other hosts for the purpose of enforcing non-use of those who do not require access to a segment. See Frisch, page 228, 4th paragraph, second sentence. The aforementioned cover the limitations of claim 18.

26.　　As per claim 19, Wells covers a method as outlined above in the claim 18 rejection under 35 U.S.C. 103(a). In addition, Frisch teaches an embodiment of the

UNIX OS wherein all of the segments are at least readable by the antivirus unit. See

Frisch, page 29, Table 2-3, 'read access only'; page 30, 3rd line 'Group access' and

Figure 2-1; pages 228-229 'Using Groups Effectively', especially page 228, 3rd

paragraph, first sentence and 4th paragraph, last sentence. It would be obvious to one

of ordinary skill in the art at the time the invention was made for all of the segments to

be readable by the antivirus unit to enable the antivirus unit to comprehensively check

the integrity of the disk. See Frisch, page 228, 3rd paragraph, first sentence and 4th

paragraph. The aforementioned cover the limitations of claim 19.

27.   As per claim 20, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). In addition, Kim and Frisch teach that at least a portion of the

antivirus unit is provided on at least some controllers for disks corresponding to the disk

space. See Kim, page 11, Figure 2, first entry '/etc' and Section 4.2; see Frisch, pages

398-405, 'The Filesystem Configuration File', especially page 398, '/etc/fstab'. It would

be obvious to one of ordinary skill in the art at the time the invention was made for a

portion of the antivirus unit to be provided on at least some controllers for disks

corresponding to the disk space to enable a comprehensive integrity check

methodology. The aforementioned cover the limitations of claim 20.

28.   As per claim 21, Wells covers a method as outlined above in the claim 20

rejection under 35 U.S.C. 103(a). In addition, Kim teaches Tripwire is provided with file

structure information for files stored in the disk space. See Kim, page 11, section 4.2,

tw.config selection-mask +in. It would be obvious to one of ordinary skill in the art at the time the invention was made for the antivirus unit to be provided with file structure information for files stored in the disk space to enable the unit to check for integrity inconsistencies in the file structure as taught by Kim. Ibid. The aforementioned cover the limitations of claim 21.

29.   As per claims 22-25, Wells covers a method as outlined above in the claim 1-16 and 18-21 rejections under 35 U.S.C. 103(a). In addition, Kim teaches a first scan at a first time and a second scan at a second time after the first time, wherein the results of the first scan are taken into consideration in the performing of the second scan as outlined in the invention covered in the claim 1-16 and 18-21 rejections. See Kim, page 14, section 4.5. It would be obvious to one of ordinary skill in the art at the time the invention was made for there to be a first virus scan at a first time and a second virus scan at a second time after the first time and dependent on the results of the first scan since the scans are automated on a periodic basis and the integrity of the segments must be accounted for consistent with preceding scans starting with the inception of the checks to ensure integrity is maintained over the course of multiple periods. See Kim, page 14, section 4.5, 1st paragraph of the section, 3rd sentence. The aforementioned cover the limitations of claims 22-25.

30.   As per claims 26-35, they are apparatus claims corresponding to claims 1-12 and they do not teach or define above the information claimed in claims 1-12. Therefore,

claims 26-35 are rejected as being unpatentable over Wells in view of Frisch and Kim

for the same reasons set forth in the rejections of claims 1-12.

31.   As per claims 36-38, they are apparatus claims corresponding to claims 22-25

and they do not teach or define above the information claimed in claims 22-25.

Therefore, claims 36-38 are rejected as being unpatentable over Wells in view of Frisch

and Kim for the same reasons set forth in the rejections of claims 22-25.

32.   As per claims 39, 42 and 44-46, they are apparatus claims corresponding to

claims 1, 13, 14 and 20, and they do not teach or define above the information claimed

in claims 1, 13, 14 and 20. Therefore, claims 39, 42 and 44-46 are rejected as being

unpatentable over Wells in view of Frisch and Kim for the same reasons set forth in the

rejections of claims 1, 13, 14 and 20.

33.   As per claim 40, Wells covers an antivirus unit as outlined above in the claim 39

rejection under 35 U.S.C. 103(a). In addition, Kim teaches an embodiment of Tripwire

wherein the means for coupling includes means for coupling to only one storage device.

See Kim, pages 14-15, section 5. It would be obvious to one of ordinary skill in the art

at the time the invention was made for the means for coupling to include means for

coupling to only one storage device to provide a personal integrity checking means.

See Kim, page 14, section 5, 1st paragraph in the section. The aforementioned cover

the limitations of claim 40.

34.   As per claim 41, Wells covers an antivirus unit as outlined above in the claim 39

rejection under 35 U.S.C. 103(a). In addition, Kim teaches an embodiment of Tripwire

wherein the means for coupling includes means for coupling to more than one storage

device. See Kim, page 10, section 4.1.2, 'Scalability'. It would be obvious to one of

ordinary skill in the art at the time the invention was made for the means for coupling to

include means for coupling to more than one storage device to share one configuration

of the integrity checker across a multitude of storage devices for a consistent integrity

check methodology across the storage network. See Kim, page 10, section 4.1.2, 1st

and 2nd paragraph in the section. The aforementioned cover the limitations of claim 41.

35.   As per claims 47-50, they are apparatus claims corresponding to claims 13, 20,

22 and 23, and they do not teach or define above the information claimed in claims 13,

20, 22 and 23. Therefore, claims 47-50 are rejected as being unpatentable over Wells

in view of Frisch and Kim for the same reasons set forth in the rejections of claims 13,

20, 22 and 23.

36.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wells in

view of Frisch and Kim, and further in view of Stang "Comparison: Products to Detect

Changes to Programs" (hereinafter Stang).

37.   As per claim 17, Wells covers a method as outlined above in the claim 1 rejection

under 35 U.S.C. 103(a). Wells does not specify the antivirus unit scanning a portion of

the disk space independently of any file structures corresponding to the disk space.

Stang discloses several integrity checkers that scans disk space independently of any

file structures corresponding to the disk space. See Stang, page 14, 'Checkup' and

'The Detective'. It would be obvious to one of ordinary skill in the art at the time the

invention was made for the antivirus unit to scan independent of any file structures.

Motivation to combine simplifies the scanning procedure by scanning everything on the

disk as taught by Stang. Ibid. The aforementioned cover the limitations of claim 17.

38.   Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wells in

view of Frisch and Kim, and further in view of Tso et al. U.S. Patent No. 6,088,803

(hereinafter Tso).

39.   As per claim 43, Wells covers a method as outlined above in the claim 42

rejection under 35 U.S.C. 103(a). Wells does not specify an embodiment wherein the

antivirus unit is interposed between the at least one storage device and the at least one

host. Tso discloses an antivirus accelerator for computer networks wherein an antivirus

unit is interposed between a storage device and a host, wherein files requested by the

host is first scanned by the antivirus unit then submitted to the host if no virus is

detected. See Tso, figure 1 and related text. It would be obvious to one of ordinary skill

in the art at the time the invention was made to apply the apparatus of Tso to the

apparatus of Wells. Motivation for such a combination safeguards information being transferred from a storage unit to a host. See Tso, col. 1, lines 48-55. The aforementioned cover the limitations of claim 43.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nachenberg U.S. Patent No. 6,021,510.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W Kim whose telephone number is (571) 272-3804. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jung W Kim
Examiner
Art Unit 2132

Jk
December 13, 2004

GILBERTO BARRON Jr.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100